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The man behind NAMM, which he describes as a tradeshow with a heart.

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Montreux Heritage Jazz Lab 2

A unique journey through 50 years of jazz history has been created with the opening of Montreux Jazz Heritage Lab 2 at the EPFL+ECAL Lab, based at the University of Art and Design Lausanne in Renens, Switzerland.

The aim of the EPFL+ECAL Lab is to fully explore the unlocked potential of emerging technologies through design transforming scientific performance into user experiences. This ethos has seen the Montreux Jazz Heritage Lab 2, a research programme at the crossroads between architecture, design and technology, take shape. The programme itself is led by the EPFL+ECAL Lab in close collaboration with the architectural lab ALICE at the École Polytechnique Fédérale de Lausanne (EPFL), one of the two Swiss Federal Institutes of Technology.

The immersive, permanent installation is situated within a new building on the campus designed by architect Kengo Kuma, which is just next to the Montreux Jazz Café. Using 5,000 hours of audiovisual recordings made at the Montreux Jazz Festival, visitors can truly experience 50 years of jazz history right in front of them. They feel as though they are on live on the stage with Ella Fitzgerald, standing beside Miles Davis' trumpet, or comprising 'Smoke on the Water' together with Deep Purple. Nicolas Henchy, the Project Curator, takes up the story: "EPFL and the Montreux Jazz Festival signed a partnership in 2008 in regards to using the archives for the festival. This was a way to preserve the incredible heritage and, for EPFL, it was fantastic material for research projects.

"However, when you dig into important archives, another question comes along: how can you bring this context back to life? Traditional web players are not immersive, while home cinema isn't interactive and also very limited compared to a concert. So, EPFL+ECAL Lab teamed up with another lab in architecture, ALICE. Together, we did a first major installation, which earned a Swiss design award. We were able to demonstrate the need and the value of designing an experience specifically for digitised content, rather than trying to copy the original event. "Then, we had the chance to create a second installation for the new Kengo Kuma building on campus. This new one integrates the full archive database, the metadata, hosts up to 25 people and integrate new sound technologies.

Following an eight-year preservation project, which was put into practice by Andemari Piguet, Montreux Sounds and EPFL, visitors now have the ability to delve into 50 years of concerts - putting the world's largest collection of live jazz, blues and rock recordings at their fingertips. In fact, it is the first audiovisual library ever to be listed in the UNESCO Memory of the World Register. With such an important resource available for the Montreux Jazz Heritage Lab 2 project, the technology used to present it to the public had to work seamlessly, allowing visitors to really immerse themselves in what was on offer. This was something that had to be taken into serious consideration, as Nicolas expressed when discussing the project: "Through it's a very big and complex project, the Montreux Jazz Heritage Lab 2 follows our methodology. We first have an observation phase with potential users not only about needs, but about their feelings, interests, behavior and emotions. In parallel, we do an extensive assessment of scientific literature related to our research hypothesis, especially about interfaces and perception, emotional state and so forth. We also have an in-depth evaluation of emerging technologies we could use for the project. This leads us to define an experimental setup, with the aim being to turn it into a real prototype. Then, we go all the way down to the real demonstration and, eventually, we carry out assessments with users, thanks to the competence in psychology research we have at our lab. The visual content is a huge aspect of the installation, so, with a key part of the project being to preserve the recordings' cultural value through keeping the original footage unaltered and prevalent - further enhancing the immersive experience, too. The main screen for the visual content comprises 64 acoustic foam modules, with two laser projectors used for the video. Also, to boost the power of the central images on the screen, the sides of the installation consist of mirrored panels featuring a LED light grid, which reveals data and visuals about the concerts. A total of 240 Buzzo METRIX panels were used to create an LED wall for the concert, while the 3D mapping software, as well as the control system, are based on a media server solution using a Christie crosser Pandora Box.

The double curvature of the central screen takes the form of a torsion segment, creating a sense of depth. This sophisticated geometry offers a variety of views both from the Montreux Jazz Café and the external square, the heart of the university campus. The partial, intersecting transparency towards the café creates an enveloping atmosphere during the day and illuminates the campus at night. The setup simultaneously provides an intimate space within which to view the archives and makes the content the dominant feature.

The sound system was another important decision for the project, as it was a..."
key part of the immersive atmosphere. To ensure 3D sound simulation of the highest quality, 32 PSI Audio loudspeakers were installed, along with an Illusionic audio processor. Using research initiated at the EPFL-LCAV Laboratory, Montreux Jazz Heritage Lab 2 Lab boasts a truly impressive audio system, which successfully enhances the project through a virtual reconstruction of old jazz venues.

With the project being so complex, there were plenty of challenges to address along the way, which Nicolas explained: "Combining an audiovisual archive of more than 44,000 songs, including many different formats from 1967 to now is very complex. Also, as the content needs to be secured, the screen is a very complex piece in this project, too. We wanted to create a unique feeling of materiality - use it as an acoustic function and preserve the image quality at the same time."

However, despite the challenges faced, the Montreux Jazz Heritage Lab 2 is a truly innovative project that delivers on its promise to take visitors on a journey through the history of jazz.

"Montreux Jazz Heritage Lab 2 underlines that innovation should care more about user experience - this is not just about technical parameters of sound or light," added Nicolas. "It's about the emotional, cultural impact, along with the meaning and perception."

The Montreux Jazz Heritage Lab 2 will continue to evolve, serving as a tool to explore new research issues, provide a testing ground for designers and observe users' perceptions, in order to better understand the impact of immersive devices.

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**TECHNICAL INFORMATION**

**SOUND**
- 32 x PSI Audio loudspeakers
- 1 x Illusionic audio processor
- 64 x acoustic foam module

**VISUAL**
- 240 x Barco MITRIX LED panel
- Christie coollux Pandoras Box media server
- 2 x Panasonic laser projector

[www.epfl-ecal-lab.ch/work/montreux-jazz-heritage-lab/]